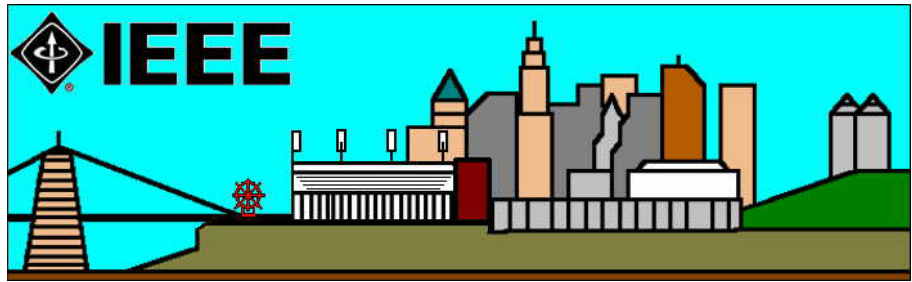


**IEEE CINCINNATI
SECTION
NEWSLETTER
APRIL 2004**



**APRIL MEETING
TOUR OF TRENTEC, INC.**

DATE: Thursday, April 22, 2004

PLACE: Trentec, Inc. (see below for directions)
4600 East Tech Drive
Cincinnati, OH 45245 U.S.A.
Ph. 513-528-7900

TIME: 7:00 p.m. to approximately 8:30 p.m.

NOTE: THIS IS NOT A DINNER MEETING!!!!!! If you would like to meet for dinner with the other Members who plan to attend the tour, names are being taken for dinner nearby at O'Charley's Restaurant, 4531 Eastgate Blvd. O'Charley's is about 1 mile from Trentec. Reservations will be for 5:30 p.m.

Please call the Cincinnati Section Voice Mailbox at **513-629-9380**, by **Noon, Tuesday, April 20, 2004** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number. Please indicate if you wish to be included in the reservation at O'Charley's at 5:30 p.m. You can also make a reservation for the tour & dinner by e-mailing our Arrangements Chair, Charlie Nash, at cnash@ieee.org.

ABOUT THE MEETING: Trentec, Inc. provides diamond wire cutting services and sells diamond wire saw equipment and wire. Diamond wire cutting is the unique solution to cut and remove large thick sections of concrete impossible to cut with conventional circular saws.

They also manufacture specialty equipment for the international commercial and government nuclear industry. Trentec maintains a multi-discipline in-house professional engineering staff to develop and design solutions for our clients needs.

Trentec also has a seismic table (earthquake simulator) that is used for qualification of replacement parts for nuclear plants. They will put on a short demonstration of an earthquake.

The tour will be conducted by the President and owner of Trentec, Dwaine Godfrey.

Directions (See map on next page):

Trentec, Inc. is located near Eastgate Mall at 4600 East Tech Drive.

If traveling from the south, North on I-275 to Exit No. 63 (OH-32) West towards Newtown. Turn right at first light (Old S.R. 74), Turn left on East Tech Drive.

If traveling from the North, South on I-275 to Exit No. 63 (OH-32) West towards Newtown. Turn right at first light (Old S.R. 74), Turn left on East Tech Drive.



CHAIR'S MESSAGE

by Fred Nadeau, Section Chair

Our March Technical Meeting on the 25th featured an outstanding presentation by Toyota Corp. on their new 2004 PIRUS hybrid gas-electric car. This was the first year Toyota offered a four door sedan with the hybrid concept which sported a 76 HP, 1.5 liter, four cylinder engine and a new 500 volt motor generator system. Two motor generators were evidenced in this design providing the majority of the car's power at 67 HP, for a combined HP rating of 110. The supporting 21 KW, Nickel-Hydrde battery is divided into easily replaceable cells. The gas mileage, of course, was phenomenal at 55 miles/gallon. The instrument display was located at the top on the dash allowing a total heads-up driving position similar to fighter aircraft heads-up-displays (HUD). The digital, throttle and shifting control are of the same fly-by-wire technology seen in the Air Force's F-16s. Toyota provided three cars for attendees to view and sit- in, with at least one car with a optional GPS map display. All-in-all, the PIRUS was very impressive package design, with a base price of around \$18,000. We are especially thankful to Toyota and Messrs Johnny Holt and Duane Bristow for their presentation and demonstration.

The Section honored our past chairman, Mr. Tom Grau, with a special plaque to thank him for his outstanding contributions for the 1999-2000 year chairmanship. Thank you again, Tom.

Fred Nadeau, Section Chair
E-mail: f.nadeau@ieee.org
Phone No. 937-289-2800

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Suresh K. Alla	Jawad B. Khan	Sadu Shetty
Ketaki D. Bhorgay	Ainars Klavins	Greg K. Silence
Aniket A. Breed	Mathew F. Kottoor	David Silvia
Kurt F. Breischaft	William E. Lampe	Jing Sun
Stuart Douglas	Xiaolong Li	Julia M. Taylor
Kurt P. Ericksen	Huazhou Liu	Eberhard Vonhof
Huaizhong Han	Robert A. Meyer	Mark M. Webster
Brett M. Harnett	Nathan C. Miller	Ron Weeks
Todd E. Hausman	Sundararajan Narayanaswamy	Sheng Zeng
Ramiah Israel	Jerome T. Pike	Qingrong Zhao
Junhai Kai	Michael K. Rist	
Sanjiv M. Karani	Steve Saum	

We wish to welcome these new members to our Section!!!

CONGRATULATIONS TO THE CINCINNATI SECTION'S LATEST SENIOR MEMBERS!!!!

The following Cincinnati Section Members have recently had their application for Senior Membership approved:

David Haller	John McNabb
Mike Lamping	Robert Schafrik
Rajul Mahmud	Peter Staat

If you are interested in becoming a Senior Member or have any questions about Senior Membership, please contact either Dr. Jim Everly (Section Vice Chair) at 513-556-4241, j.everly@ieee.org (E-mail), or Dr. Max Rabiee, (PACE Chair) at 513-556-4202, max.rabiee@uc.edu (E-Mail).

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Dick Reiman, Historian

Copyright 1993 IEEE. Reprinted with permission from the IEEE publication, "Scanning the Past" which covers a reprint of an article appearing in the Proceedings of the IEEE Vol. 81, No. 5, May 1993.

John Howard Dellinger

Sixty-five years ago this month the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper on frequency standardization by J. Howard Dellinger of the National Bureau of Standards. In the paper, he pointed out that the great increase in usage of available radio channels during the past five years had made essential a substantial increase in the accuracy of frequency measurement and in the constancy of transmitter frequencies. He reported that the Bureau of Standards and several other organizations were engaged in a cooperative effort to achieve an accuracy of at least 0.001 %. He called it a matter of "great urgency" that radio transmitters throughout the world be operated at constant frequencies. Dellinger stated that the best portable frequency standard available was the piezoelectric oscillator with its quartz plate

maintained at a constant temperature, which he and his colleagues had found. He mentioned that he had recently taken such an oscillator to Europe to compare with frequency standards in England, France, Italy, and Germany. He concluded that the results had "justified every hope."

Dellinger was born in Cleveland, Ohio, in 1886 and graduated from George Washington University in 1908. He joined the staff of the Bureau of Standards in 1907 and soon became a radio specialist. One of his first assignments was to calibrate a wavemeter sent to the Bureau by a wireless company. His research on high-frequency ammeters became part of his doctoral thesis at Princeton University, where he received the Ph.D. degree in 1913. During World War I, Dellinger and his colleagues at the Bureau of Standards prepared two books on radio for use in training Army and Navy radio operators and maintenance personnel. One of these entitled "Radio Instruments and Measurements" was published as Bulletin 74 in 1918 and became a basic reference for many years. Dellinger became head of the radio section at the Bureau in 1919, and held this position until 1946.

During the 1920s, Dellinger served as Chief Engineer of the Federal Radio Commission (predecessor of the FCC) for two years, and represented the United States in several international radio conferences. He was active in the IRE and was President of the Institute in 1925. He also served on the IRE Board of Directors and as Chairman of a standards committee. He spoke at the first annual convention of the IRE in January 1926, and stated that radio engineers in the future would need increasingly to apply scientific principles in order to "advance beyond the empirical foundations." He received the IRE Medal of Honor in 1938.

In 1935 Dellinger reported observing a correlation between solar eruptions and simultaneous radio fading, a phenomenon that became known as the "Dellinger Effect." He also contributed to development of radio beacons and other navigational aids for aircraft. During World War II, he headed the radio propagation section of the National Defense Research Committee. He retired from the Bureau of Standards in 1948 and continued as a radio consultant. He died in December 1962.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

TO SUBSCRIBE TO THE ELECTRONIC NEWSLETTER

This newsletter is only available via e-mail or the Section's web page at <http://ieee.cincinnati.fuse.net/> with the exception of new Section members (one issue only) or members who have specifically requested a copy be delivered through the U. S. Mail.

If you are a new Section member and would like to get this newsletter electronically, please contact Bob Morrison (Editor) at **513-287-3697** or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

If you would like the "Snail Mail" version, you must contact Bob Morrison via the above means or call the Section's voice mail at **513-629-9380**.

Support BearCat Cub In 2004



BearCat3 won big in the 2003 International Competition. The Robotics Team urgently needs your support to take their new BearCat Cub to even greater heights in the 2004 robotic competition series. Your contribution is greatly appreciated.

Yes, I would like to support the **UC Engineering Robotics Team and The BearCat Cub.**

Enclosed is a gift of: ☐ \$25 ☐ \$50 ☐ \$100 ☐ \$200 ☐ \$250 ☐ Other* \$_____

Or, I would like to support the **UC Engineering and Robotics Team and The BearCat Cub** by pledging \$_____ to be paid over ____ (1-5) years.

Your gift is payable by check or credit card to:

UC Foundation/UC Center for Robotics

Send to:
UC Engineering Robotics Team
University of Cincinnati
College of Engineering Development Office
P.O. Box 210018
Cincinnati, OH 45221-0018

Visa, MasterCard, Discover or American Express accepted

Credit Card #_____ Expiration Date_____

Name (Please Print)_____

Signature_____

Address:_____

City:_____ St:_____ Zip:_____

Telephone: (_____) _____ Fax:(_____) _____

E-mail:_____

ON-LINE GIVING: Please log onto **www.GiveTo.UC.edu**

*Your total commitment of \$1,000 or more qualifies for recognition through the UC President's Council and the College of Engineering's Baldwin Society

THANK YOU FOR YOUR SUPPORT



IEEE NEWS

President's Column March - April 2004

Offshoring Presents Serious, Long-term Challenges

Offshoring, or the transfer of high-wage U.S. jobs to lower-cost overseas locations and its affect on U.S. IEEE members is of great importance to IEEE-USA. In March, our Board of Directors passed its first offshoring position statement, which can be found at www.ieeeusa.org/forum/POSITIONS/offshoring.html.

Sending high-tech work overseas is easy today because increased communication bandwidth makes it possible to transmit huge amounts of data via e-mail. Ironically, many of the people who helped create and expand this technology are now the ones losing their jobs because of it. In 2003, the unemployment rate for electrical and electronics engineers reached an all-time annual high of 6.2 percent, a 47.6 percent increase over the previous year.

U.S. corporations are offshoring work to establish a business presence in potentially lucrative foreign markets and to take advantage of lower labor and production costs. Unfortunately, many U.S. engineers, computer professionals and other technologists are bearing the brunt of this trend through job losses and suppressed wages.

It's more than job security and tax revenue at stake here. Offshoring poses a very serious, long-term challenge to our nation's technological and innovative leadership, its economic prosperity and its military and homeland security. Intellectual property and an individual's private personal information are also at risk. While we can't stop offshoring anymore than we can shut down the Internet, steps can be taken to ensure that we minimize the negative effects on the United States and its citizens.

IEEE-USA believes that new U.S. workforce assistance programs should be created to help displaced high-tech workers regain productive employment and ensure that employed workers can acquire the knowledge and skills they need to remain competitive. Government procurement rules should favor work done in the United States and should restrict the offshoring of work in any instance where there is no clear long-term economic benefit to the nation, or where the work supports technologies critical to our national economic or military security.

We also think that a coordinated national strategy must be developed to sustain U.S. technological leadership and promote jobs creation in response to the concerted strategies being used by other countries to capture U.S. industries, jobs and markets. Whether it's meeting with Members of Congress or testifying before the body, IEEE-USA will continue its effort to protect jobs for U.S. IEEE members.

SCIENTISTS, ENGINEERS AND BUSINESS LEADERS CALL ON CONGRESS TO SUPPORT AND INVEST IN SCIENCE AND TECHNOLOGY

WASHINGTON (March 2, 2004) - More than 200 scientists, engineers and business leaders were in the nation's capital on March 3-4 to convey to Congress the need for increased and balanced federal investment in research and development essential to U.S. global leadership and strength. Their visit is part of the ninth-annual Congressional Visits Days (CVD).

"Federally funded research in science and technology secures the nation's future," said Debbie Rudolph, manager, technology policy of the Institute of Electrical and Electronics Engineers-USA (IEEE-USA). "More than 50 percent of all industrial innovation and growth in the United State since World War II comes from advances pioneered in scientific research."

According to Kevin Marvel, deputy executive officer of the American Astronomical Society, "Now more than ever, the federal commitment to science and technology is crucial to our economy and national security."

CVD was sponsored by the Science-Engineering-Technology Work Group, an information network comprising professional, scientific and engineering societies, higher education associations and institutions of higher learning. The Work Group is concerned about the future vitality of the U.S. science, mathematics and engineering enterprise. For more information, visit <http://www.setcvd.org/>

NEWS FROM IEEE EDUCATIONAL ACTIVITIES AND THE HISTORY CENTER (2nd Quarter 2004)

IEEE Virtual Museum Wins Praise.

The IEEE Virtual Museum, the History Center's educational outreach site, has added a new recognition to its long list of critical kudos. Kim Komando, a syndicated radio show on technology that reaches over 8 million listeners per week, named it a "pick of the week." Visit Kim Komando's site at <http://www.komando.com/>. Visit the museum at <http://www.ieee-virtual-museum.org/>.

Reminder: Call For 2004 EAB Award Nominations

The IEEE Educational Activities Board is accepting nominations for the 2004 IEEE EAB Awards. Complete information and nomination forms are provided on the IEEE EAB Awards web site at <http://www.ieee.org/organizations/eab/arc/awards/callnominations.htm>. The deadline for nominations is April 30, 2004. Award names and descriptions are provided on the web at <http://www.ieee.org/organizations/eab/arc/awards/descriptions.htm>.

IEEE Helps Over 1.5 Million People View The IEE Faraday Lecture In North America

This year, Educational Activities made it possible for over 1.5 million people in North America to view the 2004 IEE Faraday Lecture via satellite broadcast. Pre-college schools, universities, educational channels, companies, communication groups and cable consortia comprise the participating viewership venues. More than an educational event, the Faraday Lecture provides a realistic context for the work of engineers and the fascinating world of science and technology. This year's lecture explored the use of technology in music making, both live and when recording. To view this year's lecture online, please visit <http://www.iee.org/Events/Lectrs/Faraday/2004/viewonline.cfm>.

IEEE President-Elect W. Cleon Anderson To Present IEEE Presidents' Scholarship

On May 13, 2004 IEEE President-Elect W. Cleon Anderson will present the 10,000 IEEE Presidents' Scholarship at the annual Intel International Science and Engineering Fair (ISEF) held this year in Portland, Oregon. The IEEE Foundation funded \$10,000 Scholarship is awarded for "outstanding achievement in crating a project that demonstrates an understanding of electrical engineering, information technologies, or other IEEE fields of interest." It is the largest award given by an organization at the Special Awards Ceremony at the Intel ISEF. The Scholarship, which is in its sixth year, is the only IEEE-wide scholarship awarded to high school students. For more information on the Scholarship and the Fair, go to www.ieee.org/eab/precollege/scholarship/ or contact Sasha Eydlin at s.eydlin@ieee.org.

IEEE Oregon And Seattle Sections Raise Over \$8,000 For Intel ISEF Prizes

In an impressive display of dedication to pre-college education, the IEEE Oregon Section has arranged awards totaling \$8,250 to be given at the Intel International Science and Engineering Fair (ISEF). The 2004 Fair will be held in Portland, Oregon the week of May 10. Oregon volunteer John Vinson, who will serve as Lead Judge for the IEEE Foundation's IEEE Presidents' Scholarship presented at the Fair, spearheaded the involvement of donors from the northwest community. It is customary for the host city section to provide judges for the Scholarship and their own awards for ISEF.

The Seattle Section partnered with Oregon in providing \$5,000 for their top award; the two sections donated equal amounts. This is the largest single award ever given by IEEE Sections at the Fair. Mr. Vinson and fellow members have arranged for two donated awards on behalf of IEEE by companies in the northwest. Sharp Labs Inc. has donated \$2500 for the second award and The Meridian Technology Group has donated \$250 for Honorable Mention. In addition there will be 10 regional awards of merit, donated by Region 6 individuals, each for \$50. In all 13 students will be recognized as "technical and gifted students in education with outstanding achievement in the area of engineering."

For additional information on the Intel ISEF and the IEEE Presidents' Scholarship, go to www.ieee.org/eab/precollege/scholarship/.

AAES-HARRIS SURVEY FINDS ADULTS WOULD BE PLEASED IF THEIR KIDS CHOSE ENGINEERING AS A PROFESSION

WASHINGTON (March 8, 2004) - In a Harris Interactive survey conducted on behalf of the American Association of Engineering Societies (AAES) with a grant from the United Engineering Foundation, engineering receives a higher rating from adults, whether or not they were parents, as a career choice for their children than either accounting or the ministry.

When asked to use a scale of one through 10 to represent "extremely displeased" to "extremely pleased" if their children were to enter a particular profession, both accounting and the ministry receive high marks, with accounting receiving an overall rating of eight and the ministry a seven. Engineering and science, on the other hand, both receive ratings of nine out of ten.

The survey was released in conjunction with National Engineers Week, February 22-28, dedicated to increasing public awareness and appreciation of engineering. Co-chairs for EWeek 2004 are the IEEE/IEEE-USA and the Fluor Corporation. Ratings for engineering as a profession are consistent across all groups, regardless of respondents' familiarity with or interest level in engineering, as well as respondents' sex, age, or level of education.

When asked to explain why they'd be pleased if their children went into engineering, to "make a positive contribution to society" is cited as often as to "earn a good salary." Other reasons given include the ability to do "interesting work" and the profession's prestige.

The survey reveals slight differences for why adults would be pleased if their children went into engineering depending on whether they were males or females. When discussing sons, 31 percent appreciate the ability to earn a good salary and 29 percent like the fact that they can make a positive societal contribution. By contrast, 25 percent pick "positive contributions to society" as the prime reason they would be pleased if their daughters chose engineering, followed closely by "good salary" at 24 percent.

Perhaps another contributing factor is the high esteem with which the engineering profession is held among Americans. According to the survey, more than three out of four respondents, 77 percent, say engineers are largely responsible for a high standard of living. As compared to scientists, engineers are thought to create strong economic growth (69 percent vs. 25 percent), preserve national security (59 percent vs. 29 percent), and make strong leaders (56 percent vs. 32 percent).

Despite the positive views, and the fact that the survey finds that, on average, Americans are personally acquainted with six engineers, just one-third (33 percent) of those polled feel "very" or "fairly well informed" about engineers and engineering. And only slightly more, four out of ten (40 percent), are interested in learning about engineers and engineering.

Still, 95 percent agree that engineers use old and new knowledge to solve practical problems, and are involved in diverse fields and occupations. The vast majority recognizes the contributions of engineers to almost all aspects of life. When asked about engineers' level of involvement in transportation, for example, 98 percent of respondents acknowledge the contribution of engineers in building automobiles, airplanes, highways, bridges and tunnels. Ninety-five percent believe engineers are involved with spacecraft, electronics, and air conditioning and refrigeration.

When asked to describe what first comes to mind when they hear the word "engineer," respondents say an engineer "builds/constructs/makes"(38 percent), "designs/draws/plans" (19 percent), and does "mechanic/mechanical work" (9 percent).

Commenting on the survey, Henry J. Hatch, P.E., Chair of the AAES Committee on the Public Awareness of Engineering, notes that the positive public perception of engineers accurately reflects the important role the profession plays in all levels of society. "Engineering touches every part of our lives in a wide variety of ways," said Hatch. "These survey results are a strong indication that the vast majority of people support our work and our goals, and offer a powerful endorsement of the profession."

The survey found that the most common source of information about engineers is from television news, both cable and local. Those better informed and having a higher interest in the profession are more likely than those who are not to get that information through the Internet.

The Internet is a more common news source for those who are informed about engineers (24 percent vs. 10 percent who are not informed), interested in engineering (21 percent vs. 9 percent who are not interested), and who know at least one engineer (17 percent vs. 3 percent for those who do not know any engineers).

Harris Interactive conducted telephone interviews among a nationally representative sample of 1,000 adults, aged 18 and older. Interviewing was conducted between December 1 and December 14, 2003. Figures were weighted for age, sex, education, race and ethnicity, as well as region, household size and number of telephone lines in the household.

In theory, with a probability sample of this size, one can say with 95 percent certainty that the results have a statistical precision of plus or minus three percentage points of what they would be if the entire U.S. population had been polled with complete accuracy.

IEEE's "The Institute" Online Alert

IEEE's "The Institute" has been updated with new content, including:

Business 101 for Engineering Entrepreneurs

Do you think you have what it takes to run your own engineering business? Several IEEE members took time out from their busy schedules to tell us of their adventures in setting up their own businesses. Read more at http://www.theinstitute.ieee.org/portal/index.jsp?pageID=institute_level1_article&TheCat=2201&article=tionline/legacy/inst2004/mar04/3w.featureentre.xml

Standards Hidden in Plain Sight

They're responsible for the way your computer works, as well as for your television set, wireless router, video games, and many other electronic products. All depend on IEEE technical standards, which establish guidelines for how things are designed and the specifications they should meet. Find out more at http://www.theinstitute.ieee.org/portal/index.jsp?pageID=institute_level1_article&TheCat=2201&article=tionline/legacy/inst2004/mar04/3w.standards.xml

Acoustics Expert Receives U.S. National Medal of Science

He's been a renowned acoustical scientist, an entrepreneur, a force behind the Internet, and the CEO of a television station. These are just some of the reasons that Life Fellow Leo Beranek received the U.S. National Medal of Science recently. Read more about Beranek at http://www.theinstitute.ieee.org/portal/index.jsp?pageID=institute_level1_article&TheCat=1017&article=online/legacy/inst2004/mar04/3w.memrec.xml

Beranek's medal is just one example of the recognition our members achieve. Every month, The Institute publishes notices of significant professional, governmental, academic, and technical recognitions given to our members. If you've recently been honored with a noteworthy award or appointment, The Institute would like to know about it. Describe it for us in 50 words or less and include your name, city, state or province, country, IEEE membership grade, the name of the recognition, and its significance, if appropriate <mailto:institute@ieee.org>.

Amending the IEEE's Constitution

The Board of Directors has initiated several revisions to the IEEE Constitution based on requests from the IEEE leadership and several major boards. A new Web page explaining the changes is available at http://www.ieee.org/portal/index.jsp?pageID=corp_level1&path=about/whatis/bylaws&file=changesgrid.xml&xsl=generic.xsl

A Photographic Look at EWEEK Activities

This year's National Engineers Week, cohosted by the IEEE and the Fluor Corp., is over, but you can see pictures of award presentations, the Future City Competition, and more online at <http://www.ieeeusa.org/eweek/2004/index.htm>

Join at Midyear and Pay Half Dues

If you've been trying to convince any of your colleagues to join the IEEE but have had no luck, tell them that if they join now, they'll pay the half-year rate. Learn more at http://www.ieee.org/portal/index.jsp?pageID=corp_level1&path=membership&file=dues.xml&xsl=generic.xsl

Conference Covers Advances in Signal Processing

Speech synthesizers, biomedical advances, and new developments in multimedia wireless services will be featured at this year's International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2004). Find out more at http://www.theinstitute.ieee.org/portal/index.jsp?pageID=institute_level1_article&TheCat=2203&article=online/legacy/inst2004/mar04/3w.conference.xml

Proceedings Address New Strides in Intelligent Signal Processing

The proceedings of the 2003 IEEE International Workshop on Intelligent Signal Processing contain new research on digital signal processing, soft computing techniques, and biomedical engineering. Just published, the proceedings are now available through the IEEE Online Catalog & Store at <http://shop.ieee.org/store/product.asp?prodno=EX692>

You can always find the most current version of The Institute at <http://www.ieee.org/theinstitute>

IEEE-USA Today's Engineer

IEEE-USA Today's Engineer has been updated with new content, including:

Contract Engineering: A Viable Career Alternative

While many engineers still seek permanent, full-time employment, others are turning to contract engineering as an alternative. What is contract engineering; what are the benefits; and what are the challenges?

<http://www.todaysengineer.org/mar04/contract.asp>

Getting to Know Your Customers

If you are just beginning your engineering career, you might be wise to concentrate on getting to know your customers -- really know them. You'll realize your long-term development goals sooner and gain experience, as you earn your customers' confidence and respect. <http://www.todaysengineer.org/mar04/customers.asp>

IEEE-USA Pulse: Engineering Equality as Important as Job Availability

While much talk surrounds the question of whether or not an engineering shortage actually exists, many believe an issue just as worthy of debate and action is engineering equality. What is IEEE-USA doing to encourage young women, minorities, people with disabilities and the disadvantaged to consider engineering a viable career choice? <http://www.todaysengineer.org/mar04/equality.asp>

Reader Poll: The Virtual Workforce: A Concept Unfulfilled?

Some years ago, industry leaders predicted that computers would help create a paperless office environment. Others forecast that most workers would work in virtual offices as members of virtual teams. The reality has been quite different. <http://www.todaysengineer.org/mar04/poll.asp>

Immigrant Worker Debate Remains a Hot Topic

The refueled debate over immigration has some thinking that corporations may press Congress for another H-1B increase. With the H-1B visa limit now set at 65,000, concern is growing about companies that seek talent from other countries misusing the L-1 visa program to make up for the smaller H-1B pool. Professional organizations and interest groups are divided on the visa caps issue.

<http://www.todaysengineer.org/mar04/debate.asp>

Blackout 101 Forum Educates Hill Staff

The 2003 "Northeast Blackout" left more than 50 million people in the dark last August. What happened? The IEEE Power Engineering Society and IEEE-USA sponsored a "Blackout 101" forum for members of Congress and their staffs, to educate them on how North America's electric power system works; what can go wrong; and how we can prevent future large-scale power blackouts. <http://www.todaysengineer.org/mar04/blackout101.asp>

Also in this issue:

- Engineering Hall of Fame: Frederick Terman and the 100th Birthday of Eta Kappa Nu
- Capitol Shavings: Senate Approves Pension Legislation, Urges House to Act Quickly
- World Bytes: Surviving Without a Salary
- IEEE-USA President's Column: Offshoring Challenges
- Reader Feedback

To read TE, go to: <http://www.todaysengineer.org>

AS "GIRL DAY" TURNS FOUR, ENGINEERS REDOUBLE EFFORTS

In remarks at the United Nations, Dr. Sylvia Wilson-Thomas says increased recruitment of girls and women into engineering is a global need.

WASHINGTON (March 25, 2004) -- A company in Colorado taught eighth-grade girls how to build simple electronic circuits. Employees at a New York City construction firm began serving as engineering mentors to girls in three local schools. Industry engineers conducted one-on-one outreach to 200 girls in a Missouri school district. These and hundreds of other programs were part of the fourth annual Introduce a Girl to Engineering Day program, a centerpiece of National Engineers Week's outreach to encourage underrepresented groups to consider a career in engineering.

Thousands of women engineers -- with support from their male counterparts -- participated in the mentoring effort this year -- dubbed "Girl Day" in engineering circles -- led by 2004 National Engineers Week co-chair, the IEEE / IEEE-USA, with major sponsors Agilent Technologies, Inc., and the Elizabeth and Stephen Bechtel, Jr. Foundation.

On March 25, Girl Day went global as National Engineers Week participated in a United Nations briefing, "Girls and Technology: New Educational Opportunities." Dr. Sylvia Wilson-Thomas, representing EWeek and the IEEE, reported on Introduce a Girl to Engineering Day and other Science, Technology, Engineering and Mathematics programs to promote education for girls and career opportunities for women, as part of the weekly UN Department of Public Information briefing for non-governmental organizations.

National Engineers Week has also invited organizations, educational institutions, and individuals to sign a statement supporting its initiatives, which can be accessed at the National Engineers Week web site at <http://www.eweek.org>:

"We, the undersigned, encourage all nations to seek the talents, viewpoints and intellects of women in engineering and related mathematics and science fields. Encouragement, education and work opportunities for girls and women in these fields are imperative to generate and turn ideas into reality for the health, safety, and welfare of all."

For years, the engineering community has recognized the need to bring more women into its ranks. Currently, only one out of ten engineers in America is a woman. National Engineers Week launched Introduce a Girl to Engineering Day in 2001 to provide girls and young women with a firsthand experience in the engineering arena. An estimated one million girls have been involved annually in what is considered to be the first outreach program targeting girls ever established by a single profession.

A Pledge Roster of Girl Day events across the country can be viewed at http://www.eweek.org/site/News/Eweek/2004_nationalpledgeroster.shtml. Organizers and engineers are urged to continue listing their activities throughout the year to help make educational and career opportunities and mentoring programs available for girls and prospective women engineers nationwide.

Although Girl Day is officially just one day each year during National Engineers Week -- this year it was Thursday, February 26 -- the event is designed to have a long-lasting impact.

"The heart and soul of Introduce a Girl to Engineering Day are the young women we inspire," says Joey Duvall, an electrical engineer at Lockheed Martin, IEEE member, and chair of this year's campaign. "I've had a great deal of support from key role models throughout my journey. I never doubted I could become an engineer, and that's the message I hope to give to my younger, future colleagues."

Those involved in the program stress that Girl Day is much more than an attempt to diversify the profession and more than simply a numbers game. Besides broadening and increasing the ranks of engineers in America, engineers say the initiative helps in the long range, by opening up the profession -- and, thus, its societal impact -- to serve a larger need. Though the impact of any such an effort is not always easy to measure, few doubt that girls are up to the challenge.

This year, for example, the National Champion of the 2004 Future City Competition, another educational program of National Engineers Week, was an all-girl team. Students Cara Hartz, Natalie French, and Allison Garda of Riverview Junior/Senior High School in Oakmont, Pennsylvania, bested teams from 33 regions across the country for first place honors at the Future City National Finals in Washington, D.C. in February. More than 1,100 schools and 30,000 students participated in the 12th annual competition.

IEEE-USA's Call for Mandatory Electricity Reliability Standards Included in Power System Outage Task Force Recommendations

WASHINGTON (April 8, 2004) - The U.S.-Canada Power System Outage Task Force's final report on last August's major blackout calling for mandatory and enforceable electricity reliability standards incorporates IEEE-USA's November 2002 position: <http://www.ieeeusa.org/forum/POSITIONS/reliability.html>.

The report (<https://reports.energy.gov/>), issued Monday, identified seven violations of voluntary reliability standards administered by the North American Electric Reliability Council (NERC) that contributed to the August 14 blackout. The outage - North America's worst blackout ever - spread to eight Midwest and northeastern states and Ontario, Canada, and left 50 million people without power.

"Our nation's economy and overall welfare depends on a reliable source of electricity," said Dick Wakefield, IEEE-USA's Energy Policy Committee chair. "This report highlights the need for mandatory reliability guidelines, and clearly shows that voluntary standards alone are not adequate. I encourage all U.S. electrical engineers to review the report and to support appropriate action by federal and state decision makers."

To ensure reliability, IEEE-USA endorses federal legislation transforming NERC from a successful, voluntary, industry-created organization to one empowered with establishing mandatory compliance rules and penalties for violations. The change would strengthen NERC's mission to ensure that the North American bulk electric system is reliable, adequate and secure.

IEEE-USA thinks it is in the United States' interest to empower the Federal Energy Regulatory Commission to create a self-regulating reliability organization, the Electric Reliability Organization (ERO). The ERO would give NERC the necessary legislative authority to enforce mandatory reliability standards throughout the North American electric system.

The IEEE Cincinnati Section Executive Committee

Member Names and Phone Numbers

Cincinnati Section Voice Mail	513-629-9380 (call for meeting reservations)
Section Web Page	Http://ieee.cincinnati.fuse.net/
Fred Nadeau - Chair	937-289-2800, f.nadeau@ieee.org (E-mail)
Jim Everly - Vice Chair	513-556-4241, j.everly@ieee.org (E-mail)
Laurie Tappel - Treasurer	513-397-6383, laurie.tappel@cinbell.com (E-mail)
Ron Harbaugh - Secretary	513-769-3781, ron.harbaugh@ieee.org (E-mail)
Max Rabieeee - PACE Chair	513-556-4202, max.rabieeee@uc.edu (E-Mail)
Steve Olenick - Member-At-Large	513-554-2059 (Office), 513-642-3220 (Fax), steveo@nsseng.com (E-mail)
Marie Nemier - Member-At-Large	513-528-7900, Ext. 137, mnemier@trentec.com (E-mail)
Charlie Nash - Arrangements Chairman	513-723-3849, cnash@ieee.org (E-mail)
Randy Holt – Membership	859-572-5710 (Office), Holthr@nku.edu (E-mail)
Bob Morrison - Editor	513-287-3697 (Office), 513-287-4155 (Fax), j.r.morrison@ieee.org (E-mail)